A river runs through it

Central Americans tap imaging and mapping capability at NSSTC

By Sherrie Super

To help revitalize a river in their native country, three researchers from El Salvador recently tapped a space-based imaging and mapping capability at Marshall's National Space Science and Technology Center.

The researchers spent a week receiving hands-on training to operate a regional environmental visualization and monitoring system that brings satellite imagery to researchers on Earth.

Known by its Spanish acronym SERVIR, which stands for the Regional Monitoring and Visualization System for Mesoamerica, the unique monitoring system was designed by NASA and the University of Alabama in Huntsville to help Central American and southern Mexican authorities and scientists identify sudden changes in environmental conditions. The technology provides regional governments, scientists and stakeholders with real-time imagery detailing events ranging from tropical storms to forest fires.

"Satellite imagery doesn't stop at borders," said Dan Irwin, the research scientist who co-developed SERVIR at the NSSTC with principal investigator Tom Sever. "SERVIR users can cross boundaries and obtain a birds-eye view of the region to better manage natural resources."

For the three researchers from El Salvador, the focus was the land, or watershed, surrounding the Rio Lempa. The 200-mile-long river originates in Guatemala and flows through Honduras into El Salvador, before emptying into the Pacific Ocean. Along the way, it irrigates the lush Lempa valley, largely within El Salvador. In addition to supporting the country's agricultural population, the river provides the majority of El Salvador's drinking water and generates a sizeable portion of the country's energy.

Julio Funes, one of the visiting researchers at the NSSTC, represents a nonprofit foundation, known by its Spanish acronym "FUNDEMAS," that promotes social responsibility in El Salvador. To raise funds and awareness for river revitalization, his organization is creating a coffee table book with images showcasing the Rio Lempa watershed. To complement the book, the organization is creating a CD-ROM that will enable users to simulate the process of flying above the land to learn about the watershed.

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"The project will support social and environmental programs," Funes said. "The profits will directly help the watershed. It's the life of the region, with its rainforests and wildlife that will ultimately benefit. We want to make people aware of its importance and help influence decision-makers to do something sustainable to support the area."

While at the NSSTC, Funes, with his two colleagues from the El Salvador Environmental Ministry, received training in high-end visualization software packages — a cornerstone of the SERVIR monitoring capabilities. The CD created through their efforts will feature ground data, video clips and images gleaned by the SERVIR system.

The researchers said that they hope the project will help sustain the river by combating problems of reduced water quantity, increased contamination and rising temperatures.

The writer, an ASRI employee, supports the Office of Strategic Analysis and Communications.

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Danny Hardin, left, an NSSTC senior research scientist from the University of Alabama in Huntsville, trains three researchers from El Salvador to use SERVIR, an NSSTC-developed environmental monitoring system. The researchers, from top clockwise, are Julio Funes of FUNDEMAS, and Mario Chacon and Wilfredo Fuentes of the El Salvador Environmental Ministry.